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A COURSE OF STUDY

FOR

TEACHERS

IN THE

PUBLIC SCHOOLS OF NORTH CAROLINA.

STATE BOARD OF EXAMINERS,

RALEIGH, N. C.

1898.



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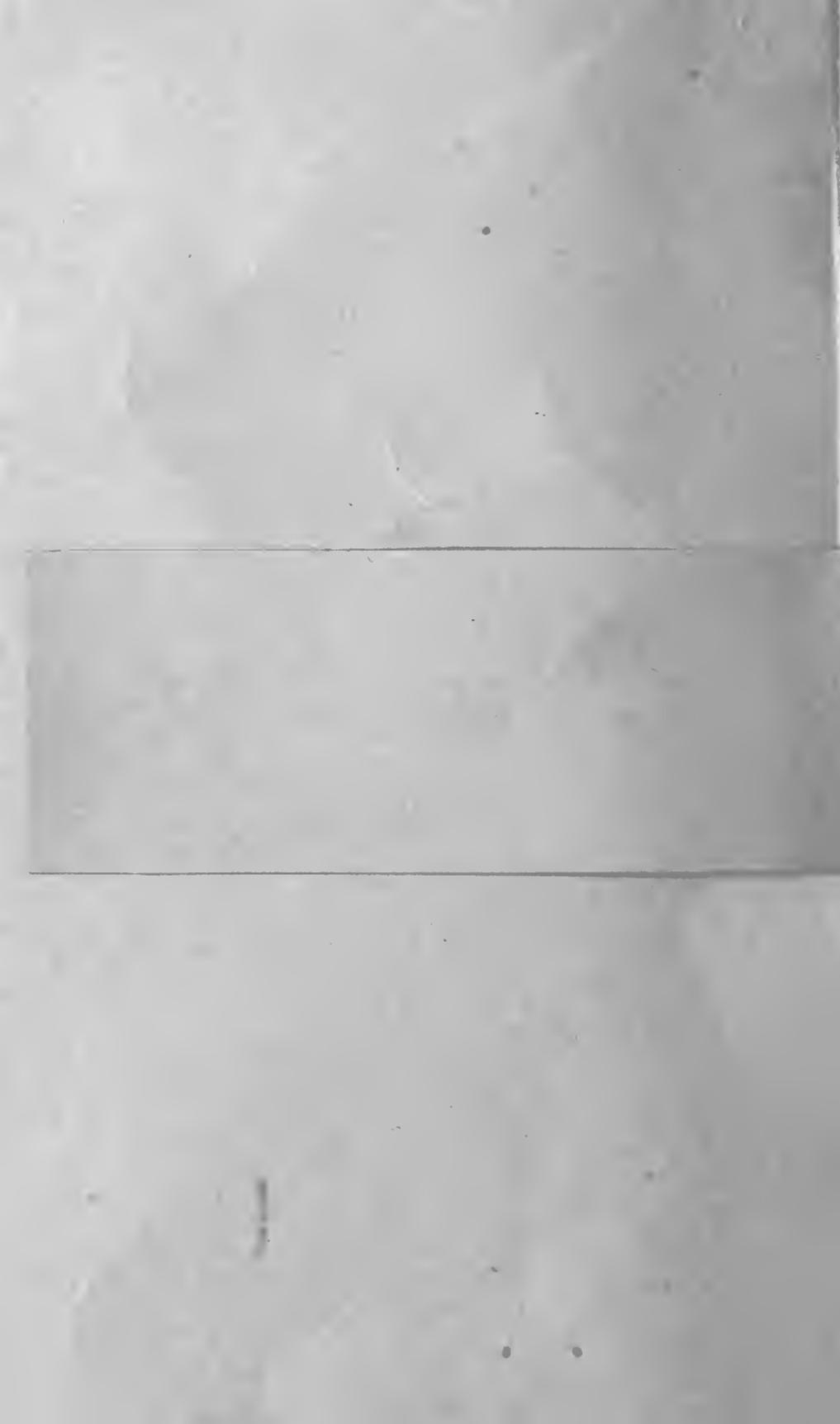
1898



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C. H. Mebane,

Asst. Secy. Pub. Instruction.



North Carolina State Board of Education
A COURSE OF STUDY

FOR

TEACHERS

IN THE

PUBLIC SCHOOLS OF NORTH CAROLINA,

TOGETHER WITH

SUGGESTIONS ON METHODS OF INSTRUCTION.

STATE BOARD OF EXAMINERS,

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1898.

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INTRODUCTION.

It is the purpose of the State Board of Examiners to help especially those teachers who are willing to help themselves.

Under the various subjects will be found helpful suggestions not only upon the work in the school-room, but also suggestions on private study for the teachers.

We feel sure that there are many honest, conscientious teachers, who are not satisfied with their present qualifications for their work, but are not sure just what to do or what course to pursue in order to make progress and to better prepare themselves for the school-room and its duties.

Owing to the multiplicity of books at this time, the average public-school teacher is at a loss to know what is best for him, when he needs a book on any special subject.

The State Board of Examiners has suggested under each subject books that are among the best. It is not expected that the average teacher will purchase all of the books on any one subject. If only one can be purchased, we think the first one named under a given subject should be selected.

We would like especially to impress upon the teachers the importance of making, if necessary, a sacrifice in order to have some good educational books. You should study the history and the science of education. You should become acquainted with some of the master minds in the teaching profession. Our successful lawyers study law. Our successful physicians study medicine. Our successful business men study business, and no less true is it, that our successful teachers study teaching.

Let not any teacher throw aside this book, with the idea that it may do some good to teachers who are in the school-room for eight or ten months in the year, but for a teacher of three or four months work it will be of no service. The

subjects were especially prepared with this in mind, that the terms are very short, and because the terms are short makes it all the more important for the teacher to be prepared for his work. The shorter the time to teach the children the better prepared should be the teacher in order for results to be what they should.

We call especial attention to the suggestions in the latter part of this pamphlet. These subjects are passed over lightly and sometimes totally disregarded by some teachers. The care of the eyes, by Dr. Lewis, should receive careful study by our teachers.

These things are perhaps of more importance in the public schools than in private schools. To many children the standard or ideal of what is manly and womanly is gotten from the school-room.

We send this pamphlet out trusting that it may be helpful to many of our teachers, that it may be the means of infusing life and inspiration in the hearts of some who may have become weary, discouraged and disheartened, that it may enable our teachers to more fully realize the importance of their work, and most important of all, that our teachers may realize that they *must study* and keep up with their profession, or fall out by the way and make room for those who are progressive.

C. H. MEBANE, *Pres. ex officio*;
W. L. POTEAT,
M. C. S. NOBLE,
L. L. HOBBS, *Secretary*,
State Board of Examiners.

COURSE OF STUDY.

READING.

Every pupil in the public schools of our State studies reading. One half of the pupils in our country public schools never pass beyond the Third Reader, and therefore their teachers should make a special effort to teach primary reading in the very best way. Good reading means the ability to read not only for one's self but for others. Reading for one's self is silent reading; reading for others is oral reading or "reading out aloud." In both cases the pupil must get thought from a printed page. Oral reading depends upon the reader's ability to not only get thought from the printed page but to call plainly and distinctly the words that contain the thought thereon. All reading lessons should finally be "read out aloud" by the pupil for the teacher's correction and criticism. Many children come to school unable to pronounce correctly the simplest words used by them every day. "Some of them cannot speak their own names correctly; Smith may be Smif; Ethel, Effel; Robert, Wobbet, etc.* Care, then, should be taken, at the first, to teach beginners to correctly pronounce words in every-day use since they, in the main, constitute the words of the First Reader.

A spoken word is a combination of elementary sounds. A written word is a combination of letters, or letters and diphthongs, which stand for elementary sounds. He who can make the sound that a letter or diphthong stands for, and knows how to combine into a word the sounds they stand for, is able to call at sight that word without the teacher's help. When he has this power he has mastered the first great difficulty in reading. Until he knows words at sight, or knows "how to find them out" for himself, he is unable to get thought from the printed page.

* Moses' Phonic Reader, Page 8.

The teacher's attention is called to the following usual methods of teaching reading :

1. Alphabetic.
2. Word.
3. Sentence.
4. Phonic.
5. A combination of any two or more of the above.

The alphabetic method consists of—

(a) Having the pupil learn the names of letters so that he may call them at sight.

(b) Having the pupil call the names of the letters in a word, after which the teacher pronounces the word for him.

(c) Having the pupil call the names of the letters in a word, and then pronounce by memory the word as it was at first pronounced for him by the teacher.

THE ALPHABETIC METHOD.—Of course, the first time a pupil calls the names of a letter in a word the teacher must tell him "what they spell." For instance, the pupil looks at the word "sit" and says "es-i-te," then the teacher says "sit."

THE WORD METHOD is the alphabetic, method omitting the calling of the names of the letters. The teacher shows the word as a whole and trains the pupil to know it at sight without reference to the powers of the letters it contains.

"THE SENTENCE METHOD begins with sentences rather than with letters or words. The thought is expressed first orally, and then the printed or written expression is presented and taught."—Raub.

THE PHONIC METHOD.

By the phonic method pupils are taught the sounds of the letters and how to combine them into, words thus acquiring the ability to find out words for themselves without the aid of the teacher. The following indicates the order in which the different steps may be taken :

(a) Teach pupils to pronounce correctly simple monosyllabic words used by them in their daily conversation, especially those which are to be met with in the future lessons of the First Reader.

(b) Let the teacher pronounce slowly the elementary sounds in a word and then have the pupils tell the word thus pronounced.

(c) Pronounce a simple monosyllabic word for the pupils and have them give the elementary sounds in that word, *i. e.* have pupils to separate a word into its elementary sounds.

(d) Teach pupils the sound each letter stands for, and later on the sound each diphthong stands for.

(e) Have pupils look at each letter in a word, give the sound it stands for, and then combine into the correct word the sounds thus given.

The successive steps as above given constitute, in the main, the essential features of the phonic method. All who have given this method a fair trial are well pleased with it. A letter is intended to indicate to the reader that a certain sound is to be made, and the phonic method insists upon teaching the power of a letter.

Those who use the alphabetic method are finally forced to resort to either the phonic method or the word method. For instance, suppose the words, fit, bed, fed, fun, sun, have been spelled by the pupil and pronounced for him by the teacher, he is then sent to his seat and told to "study his lesson." In due time he is called up to recite. He points to the letters one by one, calls their names, but fails to remember the word which a few minutes before was pronounced for him by the teacher, and hence comes to a standstill. At this point the teacher, to help him, either tells him the word at once, or pronounces the initial sound of the word which is the sound represented by the initial letter. Suppose the word be "fit" and the pupil calls the names of the letters,—ef, i, te, and is yet unable to give the word. Now the teacher, resorting to phonics, gives for him the "f" sound as a hint, next she gives slowly and distinctly "f" sound followed by the sound of

short i, and finally, if the pupil is yet unable to catch the word, she gives the "f" sound, short i sound, and "t" sound so clearly and distinctly that the word is at last caught by the pupil's ear. In other words she emphasizes the second step of the phonic method. It is safe to say that the phonic method is the only one by which a pupil ever finds out for himself any new word, and then he becomes his own helper in reading.

No matter what other method a teacher may use with beginners, all agree that the sounds of the letters or phonics must be taught finally. For those who use either the alphabetic, word, or sentence method a plan for introducing the teaching of phonics is here given. It has been often tried with gratifying results.

The following list of words, or one similar to it, may be made from those to be found on the first twenty or twenty-five pages of the ordinary First Reader:

and, boy, cat, dog, fat, girl, hat, it, jump, kite, let, me, not, pig, run, see, top, up, very, was, yes.

In making a list of words the teacher should have reference to the alphabetical arrangement of the initial letter, should take a word for each letter as soon as found in a lesson, and in the case of words beginning with vowels, should take those beginning with short sounds only,—as and, every, it, ox, up.

As soon as a word has been learned and adopted as the list-word, put it there and place the initial letter some distance to the right, show pupils that it is first in the word and stands for the first sound in the word. Train them to give this first sound by "starting to say" the word. Ask them to tell you some words beginning like it, as for instance, if the word be "and" you will get such words as apple, axe, ant, axle, etc. In this way the sound of short "a" or any other letter may be taught.

On page 5, Holmes' First Reader, the new words are cut, see, rat, I. When pupils reach this page no matter by what method, place the three first in the list either upon the blackboard or upon stout paper. They may be written or printed, as the teacher prefers, but the sooner a pupil knows

written letters, the sooner the teacher may do a much greater amount of teaching by using the blackboard. The words should be put in the list just where they are to be after it shall have been completed. Follow the same plan with Lesson 3, page 6, at which time the list will be in this shape:

and a Lesson 4, page 6, has the following words: I, a
 can, cup. I and a should be taught as words
 cat c pronounced like their names as letters. From
 this point on pupils should be taught to utilize
 dog d the knowledge gained as to the sound of letters
 in finding out other words. For instance, let
 pupils look at the list and tell which of the new
 words begins like the list word, cat. Pupils will
 man m point to the word can. The teacher should now
 write the list word just over the new word, thus: cat

can; after

which she should ask pupils to "begin to say" cat, and show that in beginning to say "cat," they have really begun to say "can." In the same way use "and" of the list to get the sound of short "a" with which knowledge the pupils will be able to find out for themselves almost all of the new word can.

A SUGGESTED PLAN OF LESSON XXIII, HOLMES' FIRST READER.

First Step. Awaken interest in the lesson and thus lead pupils to wish to read it.

Means. Use picture which is very suggestive. The skilful teacher may, by well directed questions, lead the pupils to use the new words in sentences descriptive of the picture. These sentences may be like the following, and should, if possible, be written on the blackboard:

I see a *swan*.

A swan is a *bird*.

A swan can swim.

A swan can swim fast.

A swan can swim very fast.

A swan cannot walk very fast.

I see the neck of the swan.

I see the side of the neck.

Second Step.

The above, or similar sentences having been written on the board, have pupils point out the new words in each.

Learning the new words.

Write "sw" on the board, give the combined sound of the two letters, and have pupils repeat the sound after you.

Method.

Next, give for pupils the sound that "an" has in "swan" and have them repeat it after you, and by again giving the sounds of "sw" and "an" more and more rapidly, pupils doing the same, lead them to give the correct pronunciation of the word.

"Swim" is easily taught after "swan" has been taught. It is merely a combination of the sw sound, short i, and the m sound.

The next word in the lesson is "bird," and is easily taught if the pupils have a fair knowledge of phonics. The "ir" sound has been learned in the word "girl" on page 8. The three sounds involved are the "b" sound, "ir" sound, and the "d" sound. And again, even if the pupil should be led by the teacher to give the sound of b, short i, r, and d, he would so nearly give the correct pronunciation of the word as to know how it should be pronounced and call it accordingly.

"Side" may be taught by telling pupils that "e" at the end of a word" makes "i" say its own name.

"Very." Here we have a "v" sound at the beginning of a word. Show how to give its sound by placing the upper teeth upon the lower lip and causing the breath to pass out of the mouth.

"Fast" and "neck" are regular save that ck in neck has the same sound that either c or k has by itself.

"Walk" may be utilized to show that "a" before "l" has the sound of "a" in the word all.

After the above has been rapidly developed before the class, Lesson XXIII may be assigned for the "next lesson," which may then well become a "recitation."

Pupils will have acquired much power for finding out new words for themselves when they have learned the short sounds of the vowels, the sounds of the consonants, that final "e" in words of one syllable lengthens the other vowel and makes it say its own name, that "a" before "l" has the "au" sound, and before "r" has the sound of "a" in "car".

"THE BLUE BACK SPELLER."

This book is yet used in many of our public schools. If it is used as its author intended it should be used, it is a great aid to the First and Second Reader pupils, in that it will drill them in the use of the powers or sounds of the letters in finding out a new word. Its author believed absolutely in the phonic method, and never for a moment thought that teachers would ever abuse the book by having their pupils call the letters in a word as a means of finding out the pronunciation of the word.

There is a phonic chart on the top of every page, and there is a seven-page preface devoted to a discussion of the sounds of the letters. On page 8 we read: "Each of

the vowels has its regular *long and short sounds*, which are *most used*, and also certain occasional sounds, etc." Guided by this it would be well for the teacher to give careful drill, first in such words only as contain short-vowel sounds; next, those containing long-vowel sounds, and after that, those which contain vowels having the "occasional sounds," in the order here suggested: Nos. 4, 5, 12, 13, 14, 15 (omitting bar, far, tar, etc., unless the teacher should prefer to teach just here the sound of "a" before "r"), 21 (omitting the first line and carp, scarp, etc., unless the teacher wishes to teach the sounds of "ar," "or," "ur"), 36 and 37. After this have careful drill in the short sounds, teach the fact that as a rule "e" at the end of a word (monosyllable) lengthens the preceding vowel and makes it say its name, and drill in this by use of the following lessons:

Nos. 17, 18, 19, 20, 55, 61, after which, the regular long and short sounds now having been taught, begin at No. 21 and follow the order given in the book.

One of the very best books for primary teachers wishing to learn or teach the phonic method is Moses' Phonic Reader, published by Edwards & Broughton, Raleigh. Nearly every page contains valuable hints and suggestions for the teacher.

SPELLING.

Every person who writes spells some way or other, but every writer is not a correct speller.

One should not write a word unless he knows its meaning, therefore it would be well to see that the pupil knows the meaning of every word in the spelling lesson that you assign. Part of the spelling time might be well spent in "going over" with the class the words in next day's lesson and helping each child to master the meaning of the words. The written recitation is the best that can be used, but nothing works up more enthusiasm than an old time spelling class once or twice a week and allowing the pupils to have "cutting down."

WRITING.

The teacher should rule the slates of all pupils who do not have copy-books. The slates should be ruled in conformity to the copy-book used in the school. The ruling should be done with the point of a sharp knife. Care should be taken not to bear too hard upon the knife while ruling.

Many teachers devote much time to their writing lessons and yet spoil it by imposing writing tasks for bad conduct or bad lessons. These tasks are not performed with care and thus the good effects of the training in writing are lost.

TEACHING ENGLISH.

Language-teaching should be made incidental with instruction in History, Geography, Botany, and especially with reading.

In all recitations, whatever be the subject, care should be exercised, in a kind, helpful way, over the spoken as well as the written language of pupils.

A clear and forceful reading of a sentence will often bring to light the relations of words, phrases and clauses not before seen by pupils; and it is not possible for teacher or pupil to give such reading without a perception of such relation. Good reading will aid deficient knowledge of language; and clear linguistic perception will facilitate good reading.

The tendency of our children is to adopt the incorrect forms of speech uttered in their hearing; and our schools should make intelligent and persistent effort to counteract this tendency, and to inspire pupils with a love for our mother tongue in its purity and simplicity. The teacher, therefore, has a two-fold object before him—to secure in pupils the habitual use of good English, and to inspire in them a love of our English Classics. Happily in this day of multiplied books, there are very valuable aids to teaching the English language to young pupils in some of the admirable books published for this purpose.

Less is said here about formal Grammar than about language-learning, because formal Grammar is an inheritance which has come down to us from Greece and Rome and is not necessary to the understanding of English ; while language-learning concerns every child from the time the first words are spoken till the use of good English has become a fixed habit. The purpose sought in our schools in the teaching of English may be better gained by giving more time to Language Lessons and composition, and less to technical English Grammar.

The length of time our children are likely to remain in school cannot wisely be ignored by a teacher in adjusting subjects to be taught ; and it is ever well to remember that a few things well learned will be much better than a smattering in many.

The following are given as example lessons in the beginning of this subject. The best plan will probably be to get the best text-book published, if possible, and follow it with such abbreviation and variation as the needs of the pupils may clearly show.

If the length of time during which all the schools are operated were the same, and the text-books the same, a scheme might here be presented that would be very helpful to many teachers. The following outline of lessons is intended to be suggestive and thereby helpful.

LESSON ON THE SENTENCE.

The thought must precede its expression. The sentence is the expression of a thought. The proper method will require first the study of the thought, and second the study of the sentence.

Teacher.—Children, you may write something on your slates about horses, dogs, birds, men.

You may write thus:

Horses run.

The pupils write :

Horses run.

Men walk.

Birds fly.

T. Which did you do first, think, or write?
 Pupils. We thought.
 T. What then do the words written tell?
 P. They tell what we thought.
 T. From this lesson I wish you to learn that words so put together as to express a thought, form a sentence.

Definition :

A sentence is the expression of a thought in words.
 Copy this and be able to repeat it to-morrow.

T. Do the words as thus arranged express a thought :
 Horses run ?

P. They do.
 T. What is a sentence ?
 P. A sentence is the expression of a thought in words.
 T. What then may we call the expression, Horses run ?
 P. A sentence.
 T. Men walk ?
 P. A sentence.
 T. Birds fly ?
 P. A sentence.

Continue, if time allows, by other examples.

LESSON ON SUBJECT AND PREDICATE.

1. Apples are good.
2. The teacher rang the bell.
3. The boys brought water.
4. The school closed on Friday.

T. What may each of these four expressions be called ?
 P. A sentence.
 T. About what is something said in the first ?
 P. Apples.
 T. In the second ?
 P. Teacher.
 T. In the third, in the fourth ?
 T. That part or word in a sentence which tells the person or thing about which something is said is called the subject of the sentence.

T. What is the subject of the first sentence?

P. Apples.

T. Of the second?

P. Teacher.

T. Of the third?

P. Boys.

T. Of the fourth?

P. School.

T. What is said in the first sentence about apples?

P. Are good.

T. What in the second about teacher?

P. Rang the bell—the teacher rang.

T. What in the third about boys?

P. Brought water.

T. What in the fourth about school?

P. Closed on Friday.

T. Copy the following definition:
What is said of the subject is called the predicate.

T. Class, what is the predicate of the first sentence?
 Of the second? Of the third? Of the fourth?

Other examples may be given and the pupils asked to name subject and predicate in each and give their reasons for so thinking.

LESSON ON THE NOUN.

T. Each pupil please name five things that may be seen in the school-room.

P. Chair.

Desk.

Stove.

Books.

Boys.

T. Each of these is the name of something; and so is called a name, or *noun*, the two words noun and name meaning the same thing.

T. Class, please to write five sentences using the names you have mentioned as subjects.

Pupils write:

The chair stands on four legs.

The desk is made of wood.
 The stove is made of iron.
 Books are read by the boys.
 Boys like to play ball.

T. Name every noun in these five sentences.

The pupils name all but "legs," "wood," and "iron."
 T. Does the word "legs" name anything?

Think!—"Legs" is the name of the four wooden posts on which the chair stands, as a man stands on his two legs. Also wood is the name of the material out of which the chair is made; and "iron," the name of the metal or material of which the stove is made. Therefore they are nouns.

Write the following definition on your slates:

A noun is the name of anything.

Write ten names of things not before used in this lesson:

Pupils write birds, horses, hog, chicken, duck, water, bread, fire, tree, axe.

T. Why do you think the word birds is a noun?

P. Because it is a name.

The same may be asked of every other of the ten words.

T. What is the definition of noun?

P. A noun is the name of anything.

LESSON ON KINDS OF SENTENCES.

A sentence may make a statement, ask a question, give a command, or utter an exclamation.

Examples:

1. The boy went home.
2. Has the boy gone home?
3. Bring in some wood.
4. How glad I am to see you!

T. Each pupil please write four sentences of each of the four kinds here mentioned.

A sentence that declares is called declarative.

A sentence that asks a question is called interrogative.

A sentence that commands is called imperative.

A sentence that expresses an emotion is called exclamatory.

LESSON ON ERRORS.

The following expressions are correct. Drill the pupils on them, and call attention to the errors heard in the school or at home in relation to these expressions:

1. He doesn't know anything about it.
2. I don't know where my book is.
3. He does not recite well.
4. We do not wish to go.
5. We don't wish to go.
6. I wasn't there.
7. I was not there.
8. It was I that broke that slate ; it was not she.
9. It is they that need advice, and not we.
10. I don't like that kind of hats.

Teachers of English Language should carefully study the text-books adopted in their counties. Valuable aid may be obtained from W. D. Whitney's Essentials of English Grammar, and the same author's Language and Language Study, from Tarbell's Lessons in Language, and Hyde's Practical Lessons in the use of English.

See also Rev. A. H. Sayce's article on Grammar in Encyclopædia Britannica, and the work of Mr. Sweet on Words, Logic and Grammar ; also Richard Grant White's Everyday English, and Lounsbury's History of the English Language.

It is suggested that teachers may render great service to the communities in which they teach by leading in the formation of School Libraries. In some counties Literary Societies have been formed and such deserve encouragement. These cannot be conducted satisfactorily without books. A school can do nothing better for a child than the implanting of such a thirst for knowledge as will lead to the formation of a habit of reading. Books are cheap, yet wisdom is needed in their selection.

The following list is suggested with the hope that it may prove helpful to those teachers throughout the State who are impressed with the importance of this kind of work.

Seek to form the nucleus of a Library in every community in which you teach.

No effort is made to indicate the importance of a book by the order in which it is named.

1. Grimm's Tales, selected, 2 vols., Ginn & Co.
2. Ruskin's King of the Golden River, Ginn & Co.
3. Robinson Crusoe, condensed, Ginn & Co.
4. Hans Andersen's Tales, first and second series.
5. Hawthorne's Wonder Book and Tanglewood Tales, Houghton, Mifflin & Co.
6. Beautiful Joe, the story of a dog.
7. Black Beauty, the story of a horse.
8. Kingsley's Water Babies, Ginn & Co.
9. Alice in Wonderland, Macmillan & Co.
10. Palgrave's Children's Treasury of Lyrical Poetry, Macmillan & Co.
11. Mrs. Gatty's Parables from Nature, Macmillan & Co.
12. Boyesen's Viking Tales, Scribners.
13. Miss Alcott's Little Women.
14. Miss Alcott's Old-fashioned Girl.
15. The Heart of Oak Books, edited by C. E. Norton.
16. Bunyan's Pilgrim's Progress.
17. Gulliver's Travels.
18. Church's Stories from Homer.
19. Fiske's History of the United States.
20. Dicken's Child's History of England.
21. The Boys of '76.
22. Scott's Novels.
23. Leatherstocking Stories, by Jas. Fennimore Cooper.
24. Self-Help by Samuel Smiles.
25. Macaulay's Lays of Ancient Rome.
26. Tom Brown at Rugby.
27. The First and Second Jungle Book by Rudyard Kipling.

Harris. Uncle Remus, Songs and Sayings.

Andrews. Ten Boys. (Ginn & Co.)

Longfellow. Evangeline. (Crowell.)

Lubbock. Beauties of Nature. (Macmillan.)

Creasy. Fifteen Decisive Battles. (Crowell.)

George Eliot. *Silas Marner.* (Crowell.)
 Scott. *Lady of the Lake.* (Crowell.)
 Buckley. *Fairy Land of Science.* (Appleton.)
 Osgood. *Citizen Bird.* (Macmillan.)
 Osgood. *Four Footed Americans.* (Macmillan.)
 Goldsmith. *Vicar of Wakefield.* (Crowell.)

ENGLISH LITERATURE.

The teacher should always be mindful of Matthew Arnold's maxim that "a single line of poetry, a single great thought, put to work in a pupil's mind, is worth any number of facts of literary history." With this end in view, the pupil should be given real literature as soon as possible. Mere selections are to be avoided, and the traditional "Reader," if retained, should be supplemented with unimutilated classics in prose and verse. Only under exceptional circumstances should pupils be given disjointed passages from the novelists or dramatists. It will be found helpful to give a small part of each day to reading aloud some short story or poem to the whole school. Drill in elocution, when directed to reading, rather than to speaking, is time well spent. Pupils should be especially encouraged to memorize passages of prose and verse suited to their age and progress.

The following course of supplementary reading is recommended :

FIRST READER GRADE.—Golden-Rod Book No. 1 (University Publishing Co., 20c.); Scudder's Fables and Folk Stories, Part 1.

SECOND READER GRADE.—Golden-Rod Book No. 2 (25c.); Scudder's Fables and Folk Stories, Parts 2 and 3 (Houghton, Mifflin & Co., 15c. a part in paper, or all three parts in one volume, cloth, 40c.).

THIRD READER GRADE.—Hans Andersen's Tales, first series (Ginn & Co., 25c.); Ruskin's King of the Golden River (Maynard's Classics, 10c.); Golden-Rod Book No. 3 (30c.).

FOURTH READER GRADE.—Palgrave's Children's Treasury, (Macmillan Co., 50c.); Dicken's Christmas Carol (Maynard's Classics, 10c.); Kingsley's Water Babies (Ginn & Co., 25c.); Selections from Irving's Sketch Book (Ginn & Co., 25c.); Robinson Crusoe (Maynard's Classics, 20c.).

TEACHER'S COURSE.

The basis of the teacher's private study should be Pan-coast's Introduction to English Literature, supplemented by Green's Short History of the English People. The following classics should be read in connection with the study of the periods they illustrate:

I. NORMAN-FRENCH PERIOD.—Tennyson's Harold, Shakespeare's King John, Scott's The Betrothed and Ivanhoe, Bulwer's Last of the Barons.

II. ELIZABETHAN PERIOD.—Shakespeare's Merchant of Venice, Julius Caesar, and King Lear, Palgrave's Golden Treasury (Part I), Scott's Kenilworth.

III. PURITAN PERIOD.—Scott's Woodstock, Milton's L'Allegro, Il Penseroso, Comus, and Paradise Lost (Books I and II), Bunyan's Pilgrim's Progress.

IV. EIGHTEENTH CENTURY.—Selections from Addison and Steele and Macaulay's Life of Addison (Allyn and Bacon's edition in one volume, 50c.), Macaulay's Life of Johnson (Maynard's Classics, 10c.), Goldsmith's Deserted Village (Maynard's Classics, 10c.), Pope's Rape of the Lock (Maynard's Classics, 10c.), Palgrave's Golden Treasury (Part III), Burns' Tam O'Shanter and Cotter's Saturday Night (Maynard's Classics, 10c.).

In fiction, Thackeray's Henry Esmond and The Virginians cover this period.

V. THE MODERN PERIOD.—Wordsworth (Selections in Maynard's Classics), Byron's Prisoner of Chillon (Maynard's Classics, 10c.), Scott's Marmion (Maynard's Classics, 10c.), Keats' St. Ages' Eve (Maynard's Classics, 10c.), Tennyson's Enoch Arden, Locksley Hall, Crossing the Bar (the Astor edition of Tennyson may be had for 35c.); Dickens' David Copperfield, Old Curiosity Shop, and Oliver Twist; George Eliot's Silas Marner, Mill on the Floss,

and Adam Bede; Thackeray's The Newcomes, Pendennis, and Vanity Fair.

The novels mentioned above may be had in the Astor edition at 35c. Shakespeare may be studied alone best in Hudson's edition (Ginn & Co., 40c. a play). Palgrave's Golden Treasury may be had in the school edition at 50c. (Macmillan Co.), the selections from Milton, one volume with notes (Houghton, Mifflin & Co., 40c).

GEOGRAPHY.

In too many schools Geography is confined to the printed page of the text-book. The recitation consists of the teacher's asking the questions laid down at the end of each lesson, and requiring the pupil to give the correct answer. If the pupil succeeds he has "said his lesson," if not, he is "kept in at recess" or "must say it after school." Geography teaching of this kind has no connection with nature and develops in the pupil no profitable interest in a study which is of the greatest value, on account of the mental training and culture to be derived from it when properly taught. The average child comes to school possessing a knowledge of many facts and phenomena that are the basis of much geographical knowledge. He should be taught to so use these facts as to gain a knowledge of the great world far removed from his every-day life. It will be impossible to give at length in this manual a full discussion of the best methods of teaching geography. It is hoped that many may make an effort to bring their work to a higher standard each year. The work done by the class would be more permanent in its results if the teacher would make for review a short blackboard outline of what has been studied. Certainly after each continent has been studied, the teacher should, with the aid of the class, make a blackboard outline of the leading facts learned. This should be preserved and made the basis of frequent reviews. The following is by no means complete, but is offered by way of suggestion, as a brief

ANALYSIS OF NORTH AMERICA :

Position—

1. In ? Hemisphere.
2. North(?) or South(?) of Equator.
3. In ? Zones.

Boundaries—North, South, East, West.

Size—

1. Length and breadth (approximately).
2. Third in size.
3. ? are larger and ? smaller.

Form—

1. General Form—Triangular.
2. General direction of Arctic coast-line.
3. General direction of Atlantic coast-line.
4. General direction of Pacific coast-line.
5. Prominent projections, Peninsulars and Capes, on coast from Gulf of California northward to Point Barrow.
6. Prominent projections from Point Barrow to Gulf of Mexico.
7. Prominent indentations (Gulfs and Bays) from Point Barrow to Yucatan.
8. Prominent indentations on the Pacific coast.

Surface—

1. Atlantic Highlands.
2. Atlantic Slope.
3. Pacific Highlands.
4. Pacific Slope.
5. Great Central Plain.
6. Height of Land.

Atlantic Highlands—

1. Green Mountains.
2. Adirondacks.
3. White Mountains.
4. Alleghanies.
5. Blue Ridge Mountains.
6. Smoky Mountains.

Pacific Highlands—

1. Rocky Mountains.
2. Sierra Nevada.
3. Coast Range.
4. Sierra Madre.

Drainage—

1. Atlantic Slope—give six rivers.
2. Pacific Slope—give four rivers.
3. Northern Portion of Great Central Plain—give two rivers.
4. Southern Portion of Great Central Plain—give two rivers.

Lakes—

1. Fresh.
2. Salt.

Islands—Give larger ones only.

Climate—

1. With reference to distance from the Equator—Northern, Southern and Central portions.
2. As modified by elevations, winds, ocean currents.

Vegetation—

1. In extreme Northern portion.
2. In extreme Southern portion.
3. In intermediate portion.
4. Locate corn, cotton, wheat.

Minerals—

1. Gold.
2. Silver.
3. Copper.
4. Iron.
5. Lead.
6. Coal.

Inhabitants—

1. White.
2. Negro.
3. Indian.

Political Divisions—

1. British America.
2. Danish America.
3. United States.
4. Mexico.

In using this "Analysis" for a review, point to each topic and have pupils tell about it. Have pupils supply the proper word where the "?" occurs.

TEACHERS' COURSE.

Teachers should carefully study the books adopted for use in the schools in their county, and should endeavor to thoroughly acquaint themselves with the author's plans of teaching the subject.

The following books are especially helpful to those who wish to increase their knowledge and power of teaching Geography :

- King's Methods and Aids in Geography.
- Parker's How to Study Geography.
- Maury's Physical Geography.
- Geological Story Briefly Told. (Dana.)
- Frye's Child and Nature.
- N. C. Edition of the Geography adopted in your county.
- North Carolina and Her Resources. (Agr. Department, Raleigh.)
- Bulletin and all other publications of the Agricultural Department, Raleigh.
- All publications of N. C. Geological Survey. (Prof. J. A. Holmes, Chapel Hill, N. C.)
- Any advertising matter published by Railroads of the State.
- Railroad Commission Map of the State.

This list might be indefinitely extended, but it is thought better to recommend a few than too many for, etc.

HISTORY.

THE PURPOSE OF HISTORY TEACHING.

1. To increase our love of home and native land,—to make our boys and girls true patriots.
2. To get a view of the great men of the past and be thereby stimulated to endeavor to become like them.
3. To learn wisdom by studying the lives of great men.
4. To learn how the blessings of liberty were secured, and how they must be preserved.
5. To strengthen the memory, cultivate the imagination, and to acquire such knowledge from the experience of others as will enable us to judge wisely, and act correctly at all times.

HOW AND WHEN TO INTRODUCE THE STUDY.

Children like stories and pictures; every teacher of history, therefore, should know how to tell a story and draw a map upon the blackboard. He must know how to draw as he talks, and how to fill in each detail on the map as he speaks of it to the class. The school terms in our State are so very short, and of such unequal lengths that it is impossible to say just what should be accomplished in each school. In the average school of three or four months term it would be well to divide the whole number of pupils into three classes in history, as follows:

1. All who cannot read well enough to study a book or who will not get one.
2. Those who read well enough to study the primary history book.
3. Those who are prepared to study the larger book.

WHAT TO TEACH EACH CLASS.

First Class.

Teach orally stories of Columbus, the Indians omitting cruelties, the Mound Builders, Americus Vespuccius, the Cabots, Ponce de Leon, Balboa, De Soto, Magellan, Sir Humphrey Gilbert, Sir Walter Raleigh, Amadas and Bar-

lowe, Roanoke Settlements, Drake, Pocahontas and John Smith.

Second Class.

This class should begin the use of the smaller history. Teach orally Plymouth Rock, Jamestown, Cartier, Champlain, Father Marquette, La Salle. Locate on the map all the places connected with the above. The fact that the class has or has not reached all of these topics as laid down in the text-book need not prevent you from teaching them orally. This oral instruction should be given carefully so as to emphasize these important and leading facts in American History. If your county is named after a person, your pupils should be taught something of his life, and every pupil should know after whom our State was named and something of his history.

Third Class.

This class should study the larger book. In studying the Revolution, reinforce the text-book by teaching carefully and thoroughly the battles of Moore's Creek, Alamance, Ramsour's Mill, King's Mountain, and Guilford Court House, and the Mecklenburg Declaration of Independence. The Stamp Act Disturbances on the Cape Fear should be taught by all means. When the anniversary of any of these important revolutionary events occurs during the school term it should be observed by the whole school and made the special lesson of the day.

SUGGESTIONS TO TEACHERS.

The amount of work assigned to each class should be made larger or smaller, as the interests of the pupils may demand.

First Class.

The most available help for teaching any of the subjects in this class is found in the opening chapters of any United States History. The instruction need not necessarily be given daily, and should be entirely oral or read to the children from some well-written history. If a pupil should

become so much interested in the subject as to bring to school any old history book he might find at home, it may stimulate the others to let him read aloud certain passages selected by the teacher. Reading "The Story of Columbus" from first one history and then another will not tire the pupils, but will hold their interest. The same is true of stories descriptive of the Indians. These stories may be as many and as comprehensive as desired, but the main points should finally be brought out in short sentences, written in reply to such questions as the following, written on the blackboard:

Where did Columbus live?

What was his occupation?

What did he think was the shape of the earth?

What country did he think he could reach by sailing westwardly?

In sailing westwardly what country did he reach?

What country did he think it was?

These questions are merely suggestive and should be added to. Those who know the answers and are unable to write the replies should be allowed to answer orally.

Second Class.

Follow the same general plan laid down for the first class, but make the work more comprehensive. Insist upon a great deal of written work in reply to questions on the blackboard. In this kind of work it is always best to let pupils give oral replies before they attempt to write them. Be sure to answer such questions as may be answered with a short sentence.

Third Class.

Continue plan used in the other classes. Throw light upon the text by reading occasionally to the class the same subject from another book. Make frequent use of "Topical Outline" and "Blackboard Form" as an aid in review lessons. Let these be written on the board and "questioned" about as they are built up before the pupils.

TEACHERS' COURSE.

Study the text-books adopted for use in the schools of the county.

Study also any history that you may get possession of whether you regard it as trustworthy or impartial or not. The fairest student of history will read not only those books which he regards as impartial, but those also which are said to be partial, and thus make an honest investigation for the truth. In teaching United States History much attention must be given to the history of our own State. The following books are very helpful: Spencer's First Steps; Moore's History of North Carolina; Tales of the Cape Fear (Sprunt); A Colonial Officer and His Times (Waddell); Wiley's North Carolina Reader; Caruthers' Old North State; Wheeler's History of North Carolina; Colonial Records (Office Clerk of Court).

PEDAGOGICAL LIBRARY.

North Carolina Journal of Education.

The Essentials of Method, (DeGarmo).

Applied Psychology, (McLellan).

Elements of General Method, (McMurray).

Herbart and the Herbartians.

Practical Lessons in Pedagogy, (Krohn).

Talks on Pedagogics, (Parker).

History of Education, (Painter).

A BRIEF COURSE IN CIVICS OUTLINED FOR THE PUBLIC SCHOOLS.

INTRODUCTORY.—A prominent educator spoke a great truth when he said, “The object of education is not to teach men to be great scholars, but *how to live*.” The teacher has no grander opportunity to carry out this idea than in teaching civil government. The study of civil government, or Civics, is finding out how people live under government, and its object should be to teach boys and girls the *best* way of living. And would not our teaching be more effective if we should impress upon their minds that they become citizens, in the broader sense, as soon as they are born, and that they should strive to be good, patriotic citizens—beginning right *now*.

Pupils cannot too early be taught to be patriotic, but this is often done improperly. Patriotism does not consist—as many suppose—in bragging about one’s country, nor in sneering at other nations or races. Patriots are those people who love their country and can tell *why* they love it. They can only tell *why* when they know something of its government. A man’s opinion about his country isn’t worth much, and will not be respected, unless it is based upon knowledge, for “knowledge is power.” Patriots, then, are men who know the history of their country, how it is governed, how its laws are made, what rights are to be enjoyed, and what duties are to be performed. People who are without this knowledge are nearly always narrow-minded, prejudiced, unscrupulous, wavering, and ready to follow any popular craze that comes along.

The class of people above referred to is becoming a dangerous element in our country, and the only sure way of meeting the danger is to begin with the public schools, and there apply the remedy.

Let all the public-school pupils in our country be instructed in the history of our government, its constitu-

FOOT NOTE.—The course in Civics was prepared by Prof. C. F. Tomlinson, Winston, at the request of the Superintendent Public Instruction.

tion, its laws, and the great principles that guided its founders, and then there need be no fears for our future.

In preparing the following brief course in Civics the foremost aim of the writer has been, not to stick strictly to the "pedagogic arrangement of the course," but to present something that is suitable for the public schools of North Carolina just as we find them *to-day*—a course that may be completed in three months' time, and one which every teacher holding a certificate should be able to teach successfully.

BOOKS.—The teacher should be supplied with "The American Citizen" by Dole, (D. C. Heath & Co., Boston, \$1.00); "Finger's Civics," (University Publishing Co., N. Y., 60 cents); "Civic Reader," (Maynard, Merrill & Co., N. Y., 60 cents), and a World's or Washington Post Almanac. The first mentioned book contains an excellent list of additional works—some of which may be desired. If the pupils can afford a book, Finger's Civics will be of most benefit to them, as it contains the State Constitution.

CLASSES.—A public school may be divided, for our purposes, into two classes—the one composed of younger pupils, the other of older. In a school of 65 pupils probably 40 would rank in the former and 25 in the latter class. The outline given is intended to be followed only by the older pupils. But the younger ones (not including beginners) should not be left out entirely. Read them a chapter three times a week from that elegant, yet simple Civic Reader mentioned in the book list. Ask them questions on what is read, and they will know the book from cover to cover at the close of the term.

OUTLINE OF WORK.

Civil government is inseparably associated with history—therefore the historical feature of the study should receive all the consideration necessary to make the course complete. It will also stimulate interest and original research on the part of pupils.

THE VILLAGE.—Every village, every town or city, every

county, has a history. Let the pupils, if they live in a village, find out all they can about its history. Who were some of its first inhabitants? Have any very prominent men lived in it? Has it grown fast? If not, are the reasons to be attributed to its location, its soil, its climate, or lack of the progressive spirit? All sorts of answers to such questions will be given by the pupils, but they will all help to get down to the real facts.

Do any officers live in the village? A Justice of the Peace? How did he become an officer? Who appointed or elected him? Does he get a good salary? What are his duties? Can he send a horse thief to the penitentiary? Can lie send him to the county roads? Could he settle a dispute over a piece of land valued at \$500?

Similar questions may be asked concerning any other officer that lives in or near the village. If the public school is in a larger town, or city, which has a Mayor, commissioners, policemen, tax collectors, school committee and numerous other officers, the duties, election, salaries, etc., of these men should be fully discussed. The topic might be concluded with a general debate on the question. "Resolved, that country life is preferable to town, or city life."

THE COUNTY.—This must be the starting point with many schools—situated in thinly populated districts, for the people in such districts come in contact only with the officers of county government. A historical study of the county is first made—when formed, for whom named, county seat, for whom named, etc. Take Mecklenburg county for an example. It was named in honor of the wife of George III—Charlotte of Mecklenburg. We can easily see in a moment just where the name of county and county seat came from. And as it was Admiral Anson who brought Charlotte of Mecklenburg to England, it was quite natural that the county adjacent to Mecklenburg should be named for him—hence Anson county. These two counties being very large, it was thought best in 1842 to *unite* adjoining parts of each, and form a new county. The result was—"Union." These exercises may be made exceedingly interesting.

Next take up the county officers—their names, duties, salaries, when and how elected. Taxes will also be an interesting topic to discuss. Let the pupils find out the meaning of poll-tax, tax on personal and real property, what taxes are used for, why every citizen should pay tax, etc. They should know also that in North Carolina the rule is that the tax on \$300 worth of property must always be the same as the poll-tax. Give them simple problems like this: "What tax must a man pay on \$750 worth of property, if poll-tax is \$1.50? What will his total tax be?" Each pupil should know the rate of taxation in his own county, and how much is used for county, and how much for State purposes.

THE STATE.—A brief sketch of the history of the State—such as may be found in Superintendent Noble's Supplement to Mauray's Geography—should be read to the class, even if they have made North Carolina History a regular study previously.

Departments of State Government follow—Legislative, Judicial, Executive.

The pupils should know that the Legislature is divided into two bodies—House and Senate, the one composed of 120 members, the other of 50. The members of the two Houses are elected by the voters of the counties. Each county must be represented in the Legislature. The Legislature meets every two years in Raleigh—the capital. The Lieutenant-Governor presides over the Senate, and the Speaker over the House. The duty of the Legislature is to make laws.

The Judicial Department finds out whether or not the laws made are just and constitutional. The Supreme Court Judges should be known, where they meet, how often, etc.

The Superior Courts, held in each county at stated times, are a branch of the Judicial Department of the State. There are twelve Superior Court Judges and a like number of judicial districts. The pupils ought to know the judge from their own district, and all the officers that are in any way connected with the Superior Court held in their county.

They should know the duties of the grand jury, solicitor, regular jury, etc., understand such terms as indictment, bail, evidence, testimony, the oath, cross-examination, and appeal. Also explain what the judge does when he "charges the grand jury."

The Executive Department sees that the laws of the State are executed, or enforced. The chief executive officer is the Governor. The names, duties, salaries, term of office, etc., of all the executive officers should be known. The Governor of North Carolina does not have as much power as governors of some States, because he cannot *veto* bills. The Governor has a Council of State to advise him on matters of public concern. This council is composed of the Secretary of State, the Auditor, the Treasurer and the State Superintendent of Public Instruction.

When the Executive Department is studied, a history of all the governors of the State excites interest and brings out valuable information. The study of the Judicial Department should cause inquiry concerning the State's greatest jurists and members of the bar.

When the Legislative department is taken up each pupil should know who represents his county in the legislature. Let the teacher add further topics under State government according to the time that can be devoted to the subject.

THE GENERAL GOVERNMENT.—Why do we say "general government"? Because this government makes laws that affect people generally. It does not legislate for any particular section. It is for the protection of the people of all the States *united*.

The study of the general government may be carried on in much the same manner as that of State government. It is divided into the same number of departments, with corresponding duties. Possibly the best way to study this topic is through the Constitution, which we take up later. All along, the teacher and pupils should note the points of similarity between State and General Government. For example, the term of a member of the legislature begins when he is elected, while the term of a congressman does not begin until the 4th of March following his election. By contrasting such facts, they will be easily remembered.

THE STATE CONSTITUTION.—The first Constitution of North Carolina was made at Halifax in December, 1776, by "representatives of the freemen of the State." This continued to be our fundamental law until 1835, when a convention held in the city of Raleigh adopted amendments which were ratified by the people. Subsequent amendments have been made from time to time. There are two ways of changing our State Constitution: (1.) By calling a convention. Two-thirds of all the members can make a change. (2.) By legislative enactment. Three-fifths of all the members of the legislature must first pass the constitutional change, then publish it, and then it must be passed by a two-thirds majority in the *next* legislature.

Under the old Constitution a man could not vote unless he had property in land, or paid a certain amount of taxes. The State officers were then elected by the legislature. By amendments to the Constitution any freeman may now vote, and State officers are no longer elected by the legislature, but by the people directly.

The present State Constitution may be divided into fourteen leading topics; viz., (1.) Declaration of rights. (2.) Legislative department. (3.) Executive department. (4.) Judicial department. (5.) Revenue and taxation. (6.) Suffrage and eligibility to office. (7.) Municipal corporations. (8.) Other corporations. (9.) Education. (10.) Homesteads and exemptions. (11.) Punishments. (12.) Militia. (13.) Amendments—how made. (14.) Miscellaneous.

The best way to study the Constitution is to make an outline of each topic, copy on the blackboard, and require the pupils to fill in the answers. In this way they not only read the Constitution but make an analysis of it also.

Below is given an analysis of the ninth topic—Education. The teacher can easily outline the others in a similar manner, always guarding against too many details, for it is the Constitution as a whole that we wish to be familiar with. Details destroy its unity.

IX. Education.	I. Why the State should educate.	Free public schools, for both races, for all children of State between ages of 6 and 21, said schools to be maintained at least four months in every year.
	II. *Legislature <i>required</i> to provide	
	III. *Legislature <i>may</i> provide for	
	IV. Sources of support for public education.	
	V. State Board of Education.	

CONSTITUTION OF UNITED STATES.—May be studied in a similar manner to that of the State. Pupils are often required to commit to memory the Preamble, but do they always get the full meaning out of it? If not, place on blackboard, as the first lesson on the Constitution, the following outline :

The Constitution of U. S.†

I. Parties to the compact.	1 2	3 4 5 6	1 2
II. Purposes.			
III. Thing done.			

* These questions filled out to illustrate the method.

† Doles' American Citizen.

Ask the pupils to get *every answer* to the above from the Preamble. When they have done this they will not only know the Preamble, but also know *why* they *should* know it.

* * * * *

The outline may be continued after the following manner, always requiring that the answers be fitted in directly from the Constitution itself.

I. Parts of the General Government.

(a.) Law-making power, or Congress.

1. House of Representatives composed of 357 members (at present), apportioned to the various States according to population. The qualifications, election, term of office, salary, etc., of Representatives should be noticed. North Carolina has nine Congressmen from as many districts. The pupils should at least know the Congressman from their own district.

2. Senate—composed of 90 members, two from each State. Apply same questions given above to Senators.

(b.) Judicial or Law Interpreting power.

1. Judges of Supreme Court.

2. Judges of Inferior Courts held in the State of North Carolina.

Numerous examples should be given of cases that come before the United States Courts at their sessions in different parts of the State.

(c.) Executive.

1. President—term, election, qualifications, duties, powers, etc.

2. Vice-President (same questions).

Duties of cabinet officers should be considered here also. The name of each cabinet officer should be known.

II. Powers granted to Congress.

III. Powers denied to Congress.

IV. Powers denied to the States.

All powers not granted to Congress nor denied to the States, *are reserved for the people of the States.*

The final work along this line should be a comparison of the Constitution of the State with the Federal Constitution—so far, at least, as is necessary to show that the one is a Constitution of limitations, while the other is one of grants; that the Constitution of the United States is the supreme law of the land only because the States have made it so, and that, therefore, the real supremacy in our government lies in the people, as members of sovereign States.

SUPPLEMENTARY—DUTIES OF CITIZENS.

Pupils may easily get the notion that the object of the study of Civics is to enable them to discover all the *rights* that are due them by the government. Unfortunately the average citizen knows too well how to get something *out* of the government, but too little about what his duties *toward* the government are.

Our government fulfills its mission, and helps the people, just in proportion as the people do their duty toward it. Because of the importance of this idea, a brief supplementary outline is added.

I. SOME DUTIES OF CITIZENS.

- (1.) Voting.
- (2.) Pay taxes.
- (3.) Assume responsibility.
- (4.) Work for education of all the people.
- (5.) Make sacrifices for the good of all.
- (6.) Obey the laws.
- (7.) Respect authority.
- (8.) Protect public property.
- (9.) Serve the public for the public good.
- (10.) Possess public spirit.

II. SOME ABUSES GOOD CITIZENS SHOULD SEEK TO REMEDY.

- (1.) Government meddling with business.
- (2.) Offensive partisanship.

- (3.) Selfishness on part of those in power.
- (4.) "Jobbery" and "patronage."
- (5.) Government going into debt.
- (6.) Allowing ignorant men to vote.
- (7.) Lobbying.
- (8.) Following popular crazes.

III. Finally let the pupils sum up the qualities that a person should possess to make him a good citizen. Their statements summarized will doubtless include the following:

A GOOD CITIZEN is one who is obedient, polite, orderly, clean, chivalrous, able to control himself, has a high sense of honor, knows how to use money, is thorough, truthful, respects authority, does not shirk responsibility, knows how to use power rightly, is conservative yet liberal, and is always hopeful that good will triumph over evil.

ARITHMETIC.

The teacher of arithmetic should ever have in mind the fact that the subject is of great practical value and that the pupil will have an immediate need for a knowledge of it in every walk of life. As necessary preparation for the teacher the following is suggested:

- (1) All possible arithmetical knowledge.
- (2) An accurate knowledge of the relative value of problems and puzzles.
- (3) A clear conception of the aims of the author of the text-book used.
- (4) Such a knowledge of the uses of arithmetic as will enable him to know what subjects in the book should be either omitted or postponed until the more useful subjects have been mastered.
- (5) A knowledge of what problems are of greatest worth.
- (6) An accurate knowledge of the problems occurring in the business circles of the community where the school is located, and

(7) To thoroughly understand that a "Rule" should be derived from experience in solving a problem, and that it should not be first committed to memory and *then* used as a means of "finding the answer."

(8) To know how to make charts that will help in the work, and not only to know *how* to make them but to actually make them and use them.

The following order of teaching the different subjects treated in the usual arithmetics is suggested as the best to be followed so as to impart the greatest amount of knowledge in the short time the pupils spend in our schools:

1. The four fundamental processes of addition, subtraction, multiplication and division.
2. Common fractions.
3. Decimal fractions.
4. United States currency.
5. Compound quantities.
6. Percentage.
7. Interest.
8. Analysis.

In following the above order it will be necessary to skip much of the text in the book but this may be done without injury to the class and then those subjects which have been postponed may be taken up after the more important subjects are thoroughly understood.

"THE FOUR FUNDAMENTAL RULES."

It will be impossible in this manual to present an extended discussion of the many excellent devices and methods employed by the best teachers of arithmetic.

Addition. A careful study of objects should precede the use of figures. After addition has been studied objectively, make a chart containing the following combinations:

2	1	7	5	1	6	1	2	4	6	3	3	8
3	5	2	4	1	3	9	5	1	4	1	3	1
—	—	—	—	—	—	—	—	—	—	—	—	—
4	2	4	8	6	5	4	7	2	5	7	2	
2	1	3	2	1	3	4	1	2	5	3	6	
—	—	—	—	—	—	—	—	—	—	—	—	—
6	5	2	6	4		6	7	5	4	3		
6	8	9	7	8		5	8	9	7	9		
—	—	—	—	—	—	—	—	—	—	—	—	—
4	8	5	8	7	3	9	7	8	9			
9	8	7	6	9	8	9	7	9	6			
—	—	—	—	—	—	—	—	—	—	—	—	—

This chart should be made on a large piece of manilla paper and fastened to the wall and the children should be taught to know the sum of each group at sight as the teacher points to it.

Give a great many examples like these for slate work.

Give longer columns to the higher classes. There should be frequent drill in addition and children should never be allowed to "count on their fingers." Aim at accuracy first, and then rapidity.

In adding a column of figures like the one here given
 do not let pupils say: "Two and six are eight, and
 eight and five are thirteen, and thirteen and four are
 seventeen, and seventeen and three are twenty, and
 twenty and eight are twenty-eight, and twenty-eight
 and seven are thirty-five." Insist upon their adding
 in this way: Two, eight, thirteen, seventeen, etc.

Sprague's Rapid Addition, price 10 cents, published by Ginn & Co., will help any teacher.

Subtraction.—Three classes of problems occur.

1. I had 9 cents and spent 3 cents. How many did I then have? This problem involves the use of 9 objects of the same kind and is readily understood by any child who knows that 9 cents is the sum of 6 cents and 3 cents.

2. I had 9 cents and John had 3 cents, how many cents did I have more than John? This problem involves the use of 12 objects of the same kind.

3. A farmer had 9 horses and 3 mules. How many more horses than mules did he have? This problem involves the use of 12 objects of different kinds. The first of the above should be taught thoroughly before the others are studied. The process of subtraction is soon understood and easily mastered by the pupils. The process of "borrowing and carrying" is too often so very much explained as to become difficult to understand.

Multiplication.—Great care should be used in teaching the “thought” of multiplication. Very frequently teachers begin the subject by requiring the pupil to commit to memory a part or all of the table by a certain time. Of course it must be finally committed to memory, but the “thought” should be taught first and then the process. We here have, three groups of two each or “three times two = six. Substitute \times for “times” and we may write it $3 \times 2 = 6$. Make this plain by having pupils write on slates figures for = , :: :: :: = . as $2 \times 3 = 6$, $3 \times 4 = 12$.

Next require pupils to express with figures in the same way such examples as

Give a great many examples in multiplication, but be sure to have many short problems rather than a few long ones. Such an example as,

7897643
298764

31580572
47395858

etc., are too long and tedious for real profit.

A few short problems are far more valuable than one like the above.

Division.—A few intelligent remarks by the teacher will make division very simple for those who know the multiplication table. Show the meaning of such expressions as $12 \div 3 = 4$. Illustrate by drawing and dividing them into groups of three, as Show that the quotient 4 and the dividend 12 are equal,

the one being four threes and the other being twelve ones. Long division should be taught, as everyone does, just after short division. Remember that the operation is a difficult one to perform and hence require pupils to go slowly.

Fractions.—The size of this manual will not admit of any extended outline of a treatment of fractions. They should be taught thoroughly rather than rapidly, and the addition, subtraction, multiplication, and division of fractions should be taught by means of objects. Each principle should be learned from objects. In fact, all arithmetic should be taught from objects, and in no other way.

Pupils should be required to explain each problem in correct English, and a proper tone of voice. Insist upon neat work and plain figures. Occasionally give exercises in such multiplication as 9876

7435 and require the figures of the product to be written in straight columns. Dictate many long columns to advanced classes for addition and require neat work.

The "Four Fundamental Rules" are employed every day in business and pupils should receive careful instruction in them. Time spent upon Greatest Common Factor, Least Common Multiple and Allegation is, practically, time lost.

PHYSIOLOGY AND HYGIENE

Instruction in these subjects is prescribed by the school law, as are the text-books to be used. The study of the physiological effects of alcohol and narcotics is important, but it is a mistake and a perversion to subordinate the whole science of physiology to it. The best practical results for the pupil should be expected, not from exaggerated accounts and flaming pictures of abnormal conditions, but from a clear comprehension of the normal processes that go forward in the body. The text-book ought to be supplemented by demonstrations whenever possible.

For example, the relations of the bones to one another, the different kinds of joints and levers, may be illustrated by a portion of the skeletons of other animals; so also the structure of the muscles, the internal organs, the heart, lungs, kidneys, etc., may be demonstrated upon specimens to be had by keeping an eye open for the opportunities which the kitchen offers.

TEACHER'S COURSE.

The teacher will find almost indispensable for his private study some such book as Martin's Human Body, Briefer Course (Henry Holt & Co., \$1.20). Most valuable directions for practical demonstrations are given in the appendixes to a number of the chapters. If a more elaborate reference book is desired, Kirke's Handbook of Physiology (Blakiston, Son & Co., Philadelphia, 14th edition, \$3), is recommended.

BOTANY.

The study of plants ought to begin early in the school life of the child. It occupies those two faculties which are the first to assert themselves in development,—observation and memory,—and the teacher cannot afford to violate the order of nature.

The material for the study is everywhere abundant, costs nothing, is easily handled and attractive, and, contrary to the common opinion, may be had all the year round. This is important, because without this material botany counts for nothing. There can be no profitable study of plants apart from the plants themselves. Indeed, mere book knowledge is here not only worthless, but positively harmful. Instead of feeding, it dwarfs the very faculty for the sake of which botany stands in the school course. Accordingly, no lesson should be given without the material actually in hand to illustrate it, particularly in the case of pupils beginning the study.

The school law does not require instruction in botany, but the introduction of it into the course will not to any extent displace what is prescribed. On the contrary, it will give the teacher an opportunity to quicken the minds and enliven the energies of the whole school, so that when the brief lesson here suggested is over, the pupils will turn refreshed to their other work.

First, as to the time of the lesson. It need not occupy more than five minutes, say, three times a week, though the material in hand may warrant an extension beyond this limit. Let it be taken up whenever the circumstances of the day seem to call for it. An occasional excursion under the guidance of the teacher will be useful. It may fall at the midday recess or on Saturday, according to the distance to be covered.

The lesson itself will be conducted in a variety of ways by the alert teacher. The following suggestions are offered to indicate the kind of work which may be undertaken profitably and the general way in which it ought to be done. Turn the entire school for the time into one class. Let there be no text-book. Direct attention to the specimen in hand by questions, such as, What is it? Where does it grow? What is it good for, etc.? Suppose the plant to be a mushroom gathered on the way to school. By questioning, guide the observation of the pupils to the chief features in the structure of the plant and give the names (the common names whenever possible) of these features. Cut the cap from the stem and lay it gills down on a piece of paper with some such statement as "We shall see to-morrow what will happen." The spores will be found to have fallen from the gills in radial ridges on the paper, when the cap is lifted carefully. There may follow comment on the number of the spores, their minute size, their dispersal by the wind, and their work in making new plants when they fall in proper places. The spores from a mushroom which bears on the underside many tubes instead of gills may be collected in the same way. They will fall out of the tubes in little heaps. In a favorable season the pupils may be asked to bring as many different

kinds of mushrooms to the school as they can find, with the suggestion that the situation in which they grow be noted. There may follow a lesson on moulds, specimens of which are to be found on decaying fruit, etc. In some two or three lessons the pupils will have discovered the great group of the fungi. The same method may be pursued with a moss, a fern, and a number of flowering plants. Germinating beans and other seeds in wet sand, and noting the stages of their growth, will be simple and profitable. There should be lessons on leaves, on buds, on the storage of food, on flowers and insects, and on fruits.

TEACHER'S COURSE.

The more thoroughly at home in the plant world the teacher is, the more effective will the instruction in botany be. But this work may be taken up on a much slighter basis of knowledge than would appear to be necessary, provided the preparation for the particular lesson is genuine and full. Sufficient preparation for the work here suggested may be made by the study of the following books: Bergen's Elements of Botany (Ginn & Co., \$1.10) and Spalding's Introduction to Botany (D. C. Heath & Co., \$1.00). These books supplement one another and may be mastered without a teacher. Goodale's little book Concerning a Few Common Plants (Heath's Guides for Science Teaching, 20c.) is strongly recommended. Wilson's Nature Study (Macmillan Co., 90c.) is a teacher's manual and abounds in helpful suggestions. Bailey's Lessons with Plants (Macmillan Co., \$1.10) will prove itself an invaluable companion. Geddes' Chapters in Modern Botany (Scribner's Sons, \$1.25), presents the wider aspects of the science and will give the teacher a rich fund of illustrative material. If a microscope is available, so much the better; but it is not absolutely necessary.

SCHOOL-ROOM SUGGESTIONS.

Have few rules and never make a rule unless you need it. A good teacher is seldom troubled with disorder.

On the first day of school—and every day of school—be in the room ready to receive the pupils. Organize at once and endeavor to give each pupil something to do as soon as possible. Do not talk your pupils into disorder by telling what “nice boys and girls” you wish them to be, or by boasting that your last school was the best you ever had and that you don’t see why your present one may not even surpass it. Stop talking and go to teaching.

The teacher should do all in his power to prevent disorder and to this end he should have scholarship ;

Should carefully prepare each lesson, neglecting not even the lowest reading class ;

Should try to learn more and more about teaching year by year ;

Should know where the lesson begins and not lose time asking the question, “Where does the lesson begin today?”

Should remember that too much talk means too little teach ;

Should not teach in a loud tone of voice ;

Should not teach unless the pupils are quiet.

CARE OF SCHOOL-ROOM.

The school-room should be kept “neat and clean” at all times. The teacher who sweeps the floor will find volunteers among his pupils eager to do the sweeping, and when pupils undertake the care of the school-room less ink will be spilled, less paper thrown on the floor, and less mud brought in on the shoes. With little effort a wood box may be secured and the general appearance of the floor greatly improved by not having wood piled up near the stove.

Before leaving the school-room at the close of the day erase all work on the blackboard and put everything in readiness for the next day’s work.

Too much cannot be said about the importance of keeping the school-room "neat and clean." Dirty floors and window panes indicate a careless teacher. The teacher who likes a neat, tidy school-room will find a way to keep it so. One who is willing to teach where the window panes are dirty, the floor unswept, and the walls unsightly, should not be employed to teach our youth.

RECESS.

Children should be under the teacher's supervision at recess. Many a serious quarrel has begun in play at recess and could have been prevented had the teacher been on the play-ground. When the recess signal is given pupils should not be allowed to rush from the school-room laughing and talking. The teacher should have the pupils rise and march from the building in as perfect order as possible. They should return to the school-room in the same manner after recess. Too often at recess, or when the school is dismissed, pupils are allowed to leave the room in noise and confusion. When they march from the room require them to form in line in the yard and wait until a signal from you before they "break ranks."

PUNISHMENTS.

The best teachers resort to punishments less and less the longer they teach. It savors of the brute when a teacher boasts of his having "conquered a boy" by the infliction of corporal punishment. All punishment, however, is not corporal punishment, and it is a fact that the best teachers must punish occasionally. It is impossible to state how and for what punishment, shall be inflicted. The teacher's desire should be not so much to find out a penalty for, but rather a preventive of bad conduct.

The best preventive is tact. Tact is inborn, and yet it may be made more and more effective if the teacher strives to gain knowledge and skill by studying the ways of successful teachers and attending teachers' meetings of all kinds.

The following books are very helpful: Hughes' Mistakes in Teaching; Hughes' How to Keep Order.

THE SCHOOL MUSEUM.

As a means of stimulating and guiding the observing powers, the gathering of natural objects in the vicinity of the school is entitled to the first consideration. Let it be understood that anything, whether common or uncommon, will be acceptable, so that the collection will stand as a sort of epitome of the school district.

There are the different kinds of rocks and minerals, which should be reduced to approximately uniform size, say, three inches in diameter; the different kinds of soil, which may be put in small bottles; mosses, lichens, ferns, and flowering plants, which may be dried and pressed and fastened to stiff paper of uniform size; likewise many forms of animal life and many specimens of the work of animals.

A few simple shelves will suffice to receive the material, which ought to be grouped "with the assistance" of the pupils; and here the teacher has an excellent opportunity of training the judgment, which is one of the chief advantages of nature study. Let each specimen be named, if possible, on a label, together with its locality and collector.

It will be necessary to select typical specimens from the number of duplicates brought in, though it is more important to have all the pupils represented in the museum than to save space on the shelves.

The primary object sought in such a museum is, not the possession of the specimens, but the gathering of them by the pupils. The teacher will, therefore, feel no embarrassment because of his inadequate means either of displaying or of preserving them. He will seek to have each generation of pupils contribute to the collection, and so replace lost or deteriorated material, as well as enlarge the number of specimens.

THE CARE OF THE EYES OF SCHOOL CHILDREN.

RICHARD H. LEWIS, M. D., RALEIGH, N. C., IN NORTH CAROLINA JOURNAL OF EDUCATION.

Of all the special senses, that of sight is by far the most important to the welfare of the individual, and, in general estimation, to his happiness as well. The preservation, therefore, of this most precious sense in its perfection should receive thoughtful attention from all those who are in any way responsible for the care and management of their fellow beings. Inasmuch as the teacher has the immediate oversight and control of nearly the entire population for a large part of the time during that period of life when the eye is most liable to damage from preventable causes, which causes are incidental to the work done under his supervision, it is manifest that upon him, above all others, rests this responsibility. The object of this paper is to make as plain as may be possible in dealing with a technical subject how he can best perform his duty in this respect. In order to have an intelligent appreciation of the best method of caring for an organ it is necessary to have some idea of its structure and workings, or functions, and so I shall lay the foundation for the practical part that is to follow by giving, as simply as possible, the essential features of the eye as the organ of vision.

The eye is, roughly speaking, a globe a trifle less, as a rule, than an inch in diameter, the walls of which are composed of three layers lying upon one another like those of an onion, and the cavity of which is filled with three perfectly transparent fluids or humors. The outermost of the three coats is called the sclerotic, from a Greek word meaning hard. It is white, opaque and very tough. It is the skeleton of the eye and preserves its shape, at the same time, by its strength and toughness, protecting from injury the extremely delicate structure it encloses. It is "the white of the eye." This white coat does not cover the entire ball, but in front there is an opening equal in

in area to about one-sixth of the whole surface. This opening is filled in with a transparent structure known as the cornea, which is set in the white coat very much like a watch crystal is set in its rim. The middle coat, the choroid, is composed chiefly of blood vessels for nourishing the other structures, and a kind of dark pigment, which is an element in the visual process. Intimately connected with the choroid, though an entirely different structure, is the iris (rainbow), the beautiful, many colored circular curtain, with a round opening near its center, the pupil, which hangs suspended from the junction of the sclerotic and cornea. The pupil, or window through which we see, varies in size according to the amount of light, automatically regulating the amount that falls upon the sensitive retina, which is the innermost and most important of the three coats. The retina is an extremely delicate and complex structure, and is *par excellence* the organ of vision. It may be compared to the telegraph instrument which is connected with the central office, the brain, by means of the fibres of the optic nerve, the conducting wires.

Of the three humors filling the hollow of the ball, the only one of practical interest to us in this connection is the crystalline. This is an extremely elastic semi-solid enclosed in a little sac or bag, the capsule. Of the shape of a double convex lens, it hangs suspended just behind the iris, touching it at the pupillary border. Surrounding the edge of the lens is a circular muscle, the ciliary, or muscle of accommodation, which regulates the amount of the convexity of the lens, thereby adjusting its focus of light from objects at different distances.

The eye is moved in different directions—up, down, out, in—by four recti, or straight muscles, and rotated on its axis by two oblique. Of these, only the internal recti, which converge the two eyes on near objects, as in reading, etc., are of special interest to us.

Optically considered, the eye is admirably illustrated by the camera of the photographer, with which many of my readers are doubtless familiar. The double convex lens

which focuses the light from the object to be photographed, thereby making a distinct picture of it on the sensitive plate, just as the lens of the eye does upon the retina; the perforated disc, the iris; the sensitive plate, the retina; and the adjusting screw which regulates the focus, the muscle of accommodation. In the camera, when the ground-glass plate at the back, on which the operator brings out a clear and sharply defined image of the object to be photographed before he substitutes for it the plate covered with chemicals sensitive to light, is out of focus—too near to or too far from the lens—thereby blurring the image, he changes its position by turning the adjusting screw until the plate is precisely at the focus. In the eye, the distance between the lens and the retina is fixed, and the latter cannot be moved to and fro to find the focus, so another method must be employed. That method consists in a change in the convexity of the crystalline lens, which, owing to the optical fact that the more convex a lens the shorter its focus, and *vice versa*, accomplishes the same end by putting the focus exactly on the retina. This is done by the varying contractions and relaxations of the ciliary muscle which thus accommodates or adjusts the eye.

The essential difference between the two methods, as bearing on our subject, is that in the one case it is a mechanical process, while in the other it is a vital one. Brass and steel never get tired but muscles always do, if over-worked. And right here is the trouble in most weak eyes—the overstraining from one cause or another of this little muscle of accommodation. Let us see how it can be overstrained. In the normal eye, the retina is exactly at the focus of parallel rays of light, which is synonymous with rays of light from distant objects. So that when we look at distant objects the muscle of accommodation and those of convergence, the internal straight muscles of the two eyes, are completely relaxed—at rest—just as the muscles of our body are when we are lying down—we see without effort. The nearer the object is brought to the eye the more divergent are the rays of light, the farther from the

lens and, therefore, the farther behind the retina, whose position is fixed, is the focus, and the greater the effort required of the muscle of accommodation, to sufficiently increase the convexity of the lens and shorten the focus up to the retina and make a distinct picture of the object, until, finally, the limit of the muscle's power is reached, and we can no longer see clearly. The nearer, also, the object the greater the effort required of the muscles of convergence, which act *pari passu* with the muscles of accommodation, to keep both eyes fixed on the object, and they, too, are strained by too close an approximation of the object. Try reading a few minutes at the very nearest point you can see distinctly, and you will obtain a practical demonstration of eye-strain. But all eyes are not normal. Some are too short—the far-sighted eye—and the focus for all rays is behind the retina, and even distant vision requires an accommodation effort. Some are too long—the near-sighted eye—in which a clear image can be made on the retina only by bringing the object sufficiently near, by making the rays sufficiently divergent to put the focus on the retina. Then there are other eyes whose curvatures are irregular, in which lines at right angles to each other can never be brought to a focus on the retina at the same time. When the horizontal lines of the object, for example, are distinct the vertical are blurred, and when the eye is adjusted for the vertical, the horizontal become correspondingly indistinct. Consequently, such an eye can never, through any inherent power of its own, see clearly any object, either far or near. This error is called astigmatism, and is the most troublesome and annoying of all, being an extremely common cause of headache and other nervous symptoms.

From what has been said, it is clear that the muscle of accommodation is strained in the normal eye if the book is held too close; that in the far-sighted eye this strain is still greater, because such an eye has to use a part of its adjusting power for distance, and therefore has less than the normal amount of power of adjustment for near objects in proportion to the degree of the error—the short-

ness of the eye from before backward; that in the near-sighted eye the muscles of convergence are strained, owing to the necessity for approximating the object too near; and the astigmatic eye, from the attempt of the little muscle, on all occasions, to do two things at the same time, or as nearly at the same as possible. Operating under such unfavorable conditions, the astigmatic eye is easily fatigued by continuous work of any kind, as in sight-seeing, reading or sewing.

Having paved the way for an intelligent appreciation of it, we are now prepared for the statement that the main thing in the practical care of the eyes of school children is to prevent too close an approximation of the book to the eye. It should be held at least ten inches from the eye. How is this to be done? By removing the causes of it. What are the causes? (1) Insufficient light. Every one knows that in a dim light we must hold a small object closer to the eye than in a bright light. (2) Small or bad print. (3) Faulty arrangement of seats and desks—such a proportion between the heights of the two as to make the desk relatively too high, thereby pushing the book up under the child's nose, no matter how erect he may sit. Seats without proper backs, compelling the child for want of support to rest himself by leaning on the desk. (4) Improper position in writing, which not only brings the paper too close to the eyes, but puts a further strain upon the external muscles, which direct and fix the eyes upon the object, by causing the writer to look obliquely instead of straight ahead and slightly downward—the natural direction. On this account, as well as because an erect position of the body is a necessity—not to mention other advantages—the vertical system of writing is to be highly commended. The above enumerated causes act upon all eyes, but with most effect upon defective eyes, which see with more or less difficulty, at best.

What is the effect of this strain upon the eyes? Whenever any organ is required to do an unusual amount of work, nature provides the extra power needed by sending more blood to it. So the over-strained eye is in a state of

congestion, and often aches from the pressure of the blood. But the discomfort is not the greatest trouble. The nutrition of the eye is impaired by the irregularity in the circulation, the retina becomes irritable and sensitive, and often the other coats become softened and the ball being squeezed laterally by the excessive convergence, these coats gradually give way behind, and the ball becomes elongated.

It is in this way near-sightedness originates and is increased in degree. Children are not born near-sighted, but become so in the early years of their school life when their tissues, including, of course, those of the eye, are soft and plastic. Investigations on this line show that the proportion of near-sighted in some of the large schools, particularly in Germany, varies from 1 or 2 per cent. in the first grade, to 60 per cent. or more in the highest. The variation is not usually so great, but there is a marked increase as school life progresses. The darker the school houses the greater the percentage of near-sighted. The popular idea, that near-sighted eyes are strong eyes is an error; they are often weak, and not infrequently diseased—blindness occasionally being the final result in the worst forms.

Strain of any kind can be better borne by the strong and vigorous than by the feeble and delicate, and it should be kept in mind that anything that lowers the vital powers will react unfavorably upon the eye, as well as upon the other organs of the body. Nothing is more important to a proper performance of the vital processes than a full supply of oxygen, plenty of fresh air. Children suffer greatly in this respect in our over-crowded school-rooms heated by a close stove. So, in caring for the eyes, do not forget the proper ventilation of the school-room.

But most important of all to the eye is the proper lighting of the school-room. The aggregate amount of window space should not be less than 25 per cent. of the floor space; $33\frac{1}{3}$ would be better. The windows should be high, reaching nearly to the ceiling, and located on the left side and behind, the wall in front of the pupils being always without openings—a dead wall.

In conclusion, I beg to suggest to all teachers the advisability of testing* both the sight and hearing of each pupil upon admission, assigning those with defective sight to the seats nearest the windows, and those with defective hearing to the seats nearest the teacher. By doing this many a child would not only be enabled to do better work, but would also be saved the pain caused by unjust and undeserved reproaches.

CARE OF THE TEETH.

THE N. C. STATE BOARD OF DENTAL EXAMINERS,
PRESIDENT'S OFFICE,

RALEIGH, N. C., March 4, 1898.

To Instructors in the Public Schools:

In consideration of the marked deterioration of the human teeth, so clearly demonstrated by the experience of all practitioners of dental surgery, the Dental Society of North Carolina has requested the Board of Dental Examiners to invite your attention to this most important subject, and to ask that you urge upon parents and pupils the great necessity for intelligent care of the teeth.

In obedience to this request we submit the following:

First. The premature loss of the teeth, and the disorders incident to decayed and broken teeth, are misfortunes of the gravest character, resulting not only in the disfigurement of the mouth and face, but absolutely destroying health.

Second. The critical period is from the third to the sixteenth year. The want of attention to the temporary, or shedding teeth, is fraught with great danger to the health of the child, and may be an incalculable injury to the permanent, or second set.

*The State Board of Health has had it in mind to distribute test types with instructions to all our schools, but the appropriation has been too small to permit the expenditure necessary.

Third. At an early age children easily contract habits which may be difficult to correct; particularly is this true of the habit of swallowing food without proper mastication, a condition which generally results from the inability to chew comfortably. Thus a mass of food is thrown into the stomach, unmasticated, and unmixed with saliva, in which condition it ferments, and half of its nutritive properties are lost. Indigestion and chronic dyspepsia often result. Faulty nutrition, arising from the want of proper assimilation of food, prevents a healthy mental and physical growth and development.

Fourth. To prevent the decay and premature loss of teeth the simplest and most effective treatment is a thorough use of the brush, with a well prepared dentrifice, at least twice daily—in the morning, and at night before retiring. Those who cannot afford a dentifrice, prescribed by some competent dentist, will find English Precipitated Chalk answers well for the purpose indicated, at a trifling cost.

Fifth. Parents should direct and encourage their children to cleanse their mouths and dislodge all particles of food after each meal. Every child between two and three years of age should be placed under the charge of a competent dental surgeon, in order that even the decay of the temporary teeth may be treated, and irregularities may be prevented.

V. E. TURNER, D. D. S., President,
 R. H. JONES, D. D. S., Secretary,
 THOS. M. HUNTER, D. D. S.,
 J. E. MATTHEWS, D. D. S.,
 SID. P. HILLIARD, D. D. S.,
 C. A. BLAND, D. D. S.,

Members of Examining Board.

I heartily endorse this letter and trust that our public school teachers will give this important subject the time and consideration it deserves. C. H. MEbane,

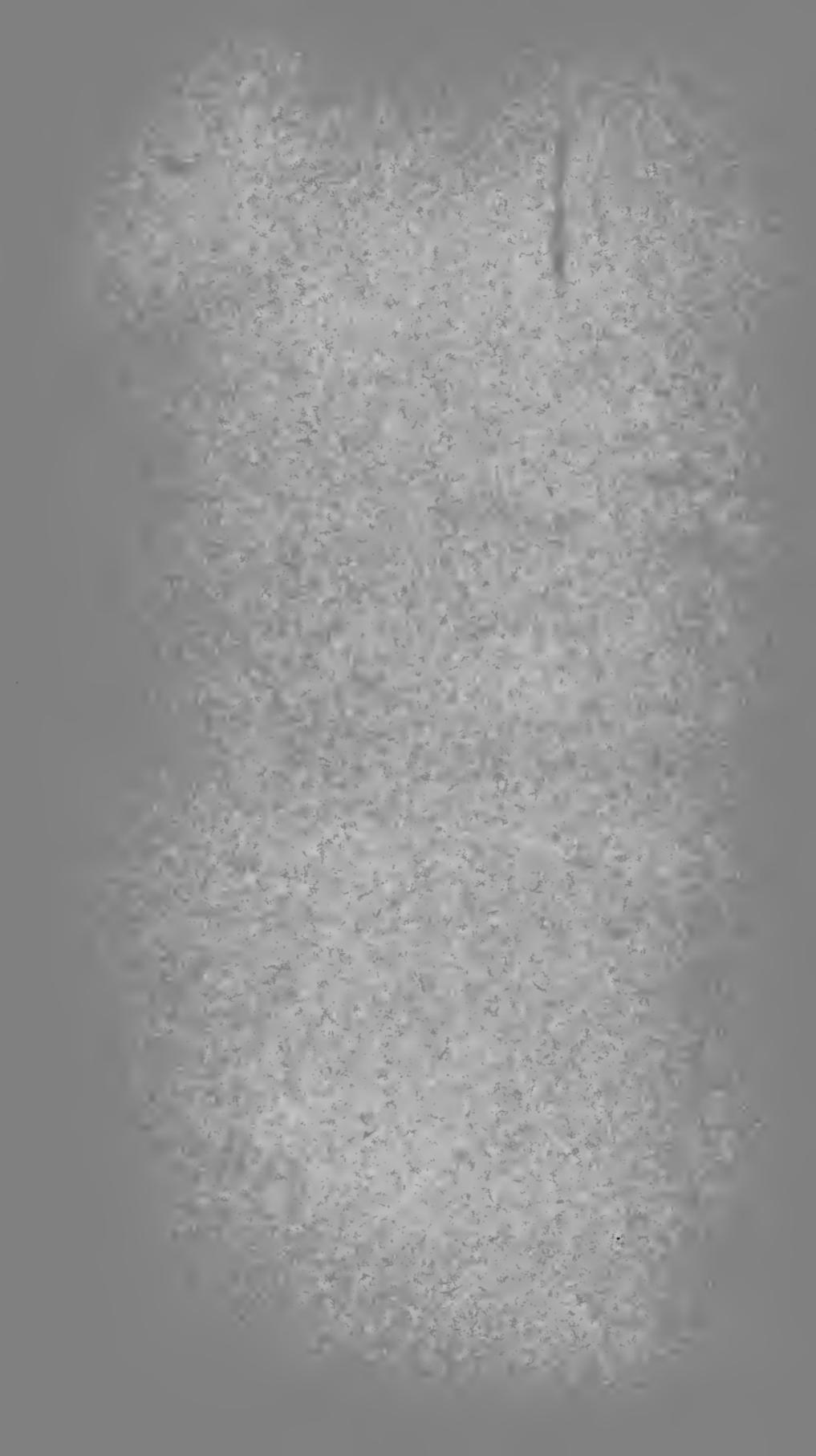
Supt. Public Instruction N.-C.

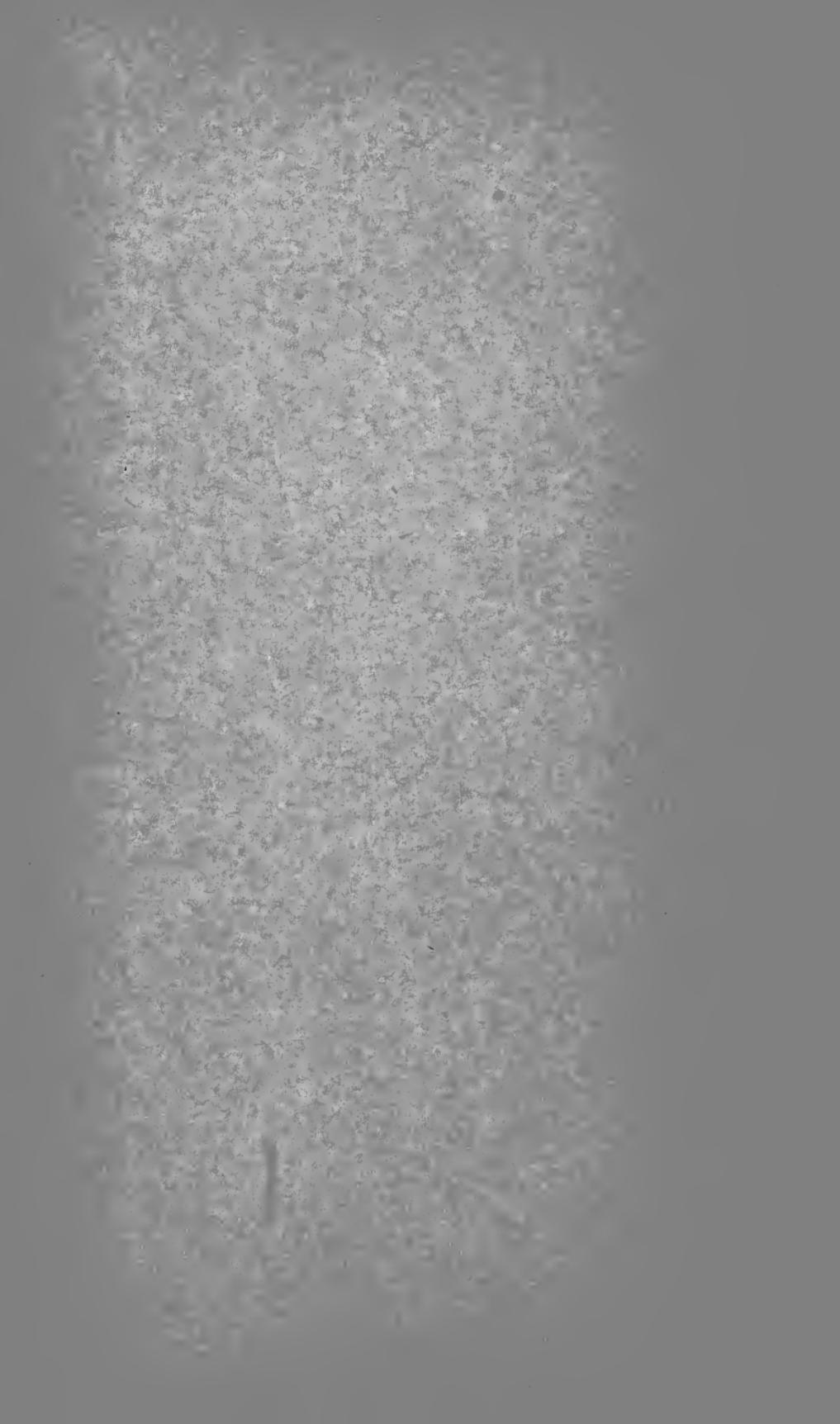
LIFE CERTIFICATES.

The following, section 3, chapter 108, laws of 1897, is published here for the benefit of teachers who do not wish to be troubled with the county examination each year. The certificate, as is shown in this section, entitles the holder to teach in any county in North Carolina without examination by the County Supervisor:

“The State Board of School Examiners shall have power to grant first-grade life certificates, which may be used in any county in the State, and shall furnish to the public, through the several county supervisors, at least one month before the regular annual county examination of teachers, full information as to the nature and character of the requirements for such first-grade life certificates; it shall annually prepare and furnish to the several county supervisors a set of examination questions covering subjects required by law to be taught in the public schools of the State, which shall be submitted at the regular annual county examination of teachers in July to all applicants for a first-grade life certificate, under such rules and regulations as the State Board of School Examiners may prescribe. The State Board of School Examiners shall examine and grade the papers of all applicants for a first-grade life certificate, and shall issue said certificate to such applicants as are properly qualified and justly entitled thereto, and all examination papers of applicants to whom first-grade life certificates shall have been granted under this act shall be kept on file in the office of the State Superintendent of Public Instruction: *Provided*, that each applicant for a first-grade life certificate shall pay in advance to the county supervisor the sum of five dollars, which shall be reported to the county board of education, and paid into the general school fund of the county: *Provided further*, that every first-grade life certificate, to continue valid and operative, shall be renewed by the State Board of School Examiners every five years, and before said board shall renew said certificate it shall be accompanied with an affidavit of the teacher holding said certificate that he or she has been actually engaged in teaching school since receiving said certificate, or since its last renewal, and no charge shall be made for such renewal.”







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